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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/772,544

02/05/2004

Tohru Kimura

5341-20

6115

27799 7590 09/13/2007  
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EXAMINER

BIBBINS, LATANYA

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

09/13/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/772,544

Applicant(s)

KIMURA, TOHRU

Examiner

LaTanya Bibbins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20,22-47 and 49-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-20,22-47,49-58,60-62,64 and 65 is/are allowed.
- 6) ☒ Claim(s) 59 and 63 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. In the remarks filed on July 2, 2007, Applicant amended claims 1, 2, 4, 7, 8, 12, 18, 28, 29, 31, 34, 35, 39, 45, and 55, cancelled claims 21 and 48, added claims 56-65, and submitted arguments for allowability of pending claims 1-20, 22-47, and 49-65.

### *Response to Arguments*

2. Applicant's arguments filed July 2, 2007, regarding claims 59 and 63 have been fully considered but they are not persuasive.

**Regarding claim 59**, Applicant asserts that support for claim 59 can be found at least in original claim 1 and allowable claim 7. However, on page 12 of the Non-Final Rejection dated February 2, 2007, dependent claim 7 was objected to as being dependent upon a rejected base claim. The Office Action also indicated that claim 7 would be allowable if rewritten in independent form including all of the limitations of the base claim **and any intervening claims**. Newly added claim 59 merely incorporates the limitations of original claim 1 and original claim 7 without including all of the limitations of the intervening claims. Therefore, Applicant's assertion that claim 59 is "allowable as incorporating subject matter found to be allowable by the Examiner" is incorrect.

**Regarding claim 63**, Applicant asserts that support for claim 63 can be found at least in original claim 28 and allowable claim 34. However, on page 12 of the Non-Final Rejection dated February 2, 2007, dependent claim 34 was objected to as being dependent upon a rejected base claim. The Office Action also indicated that claim 34

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would be allowable if rewritten in independent form including all of the limitations of the base claim **and any intervening claims**. Newly added claim 63 merely incorporates the limitations of original claim 28 and original claim 34 without including all of the limitations of the intervening claims. Therefore, Applicant's assertion that claim 63 is "allowable as incorporating subject matter found to be allowable by the Examiner" is incorrect.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 59 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtaki et al. (US Patent Number 6,449,095 B1) in view of Kaiho et al. (US PGPub Number 2003/0185136 A1).**

Regarding claim 1, Ohtaki teaches an objective lens for converging a first light flux of a first wavelength  $\lambda_1$  emitted from a first light source so as to conduct reproducing and/or recording information for a first optical information recording medium (see column 4 lines 53-63 where semiconductor laser LD1 emits a 405 nm wavelength,  $\lambda_1$ , for recording/reproducing for a HD-DVD) and for converging a second light flux of a second wavelength  $\lambda_2$  ( $\lambda_1 < \lambda_2$ ) emitted from a second light source so as to conduct reproducing and/or recording information for a second optical information recording

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medium (see column 4 lines 53-63 where semiconductor laser LD2 emits a 650 nm wavelength,  $\lambda_2$ , for recording/reproducing for a DVD) comprising: a first diffractive structure provided on at least one optical surface thereof (see the objective lens assembly and the diffractive optical element 16b in Figure 1 and column 6 lines 14-18) and having plural concentric ring-shaped zones (see column 6 lines 39-44) set such that  $n_2$ , which is an order of a diffracted ray having the maximum light amount among diffracted rays generated when the second light flux comes into the first diffractive structure, is a lower order than  $n_1$ , which is an order of a diffracted ray having the maximum light amount among diffracted rays generated when the first light flux comes into the first diffractive structure, where  $n_1$  and  $n_2$  are an integer other than 0 (see Figures 5A, 5B, and column 7 lines 7-38 where the first diffraction order of the diffracted beam of the first laser beam,  $n_1$ , is greater than the second diffraction order of the diffracted beam of the second laser beam,  $n_2$ ), wherein the  $n_1$ -th order diffracted ray is converged on an information recording surface of the first optical information recording medium through the first protective substrate (see column 7 lines 10-14) in such a way that when a wavefront aberration is measured within a first numerical aperture NA1, the RMS value of the wavefront aberration becomes  $0.07\lambda_1$  or less (see column 10 lines 41-49), and the  $n_2$ -th order diffracted ray is converged on an information recording surface of the second optical information recording medium through the second protective substrate (see column 7 lines 20-22) in such a way that when a wavefront aberration is measured within a second numerical aperture NA2, the RMS value of the wavefront aberration becomes  $0.07\lambda_2$  or less (see column 10 lines 56-65)

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wherein the optical surface on which the first diffractive structure is formed comprises a first region and a second region formed outside of the first region, and wherein a stepped section formed on the first region is located at a farther side from the optical axis and a stepped section formed on the second region is located at a closer side to the optical axis (see Figures 5A and 5B and the discussion in column 6 lines 39-60).

Ohtaki fails to teach a first protective substrate having a thickness  $t_1$  ( $0 \text{ mm} \leq t_1 \leq 0.2 \text{ mm}$ ), a second protective substrate having a thickness  $t_2$  ( $t_2 > t_1$ ), and first and second numerical apertures,  $NA_1$  and  $NA_2$  respectively, where  $NA_2 < NA_1$ . Kaiho, however, teaches a high definition-digital versatile disc (HD-DVD) with a light transmission protective layer having a thickness of 0.1 mm ( $t_1$ ) and a DVD with a protective layer thickness of 0.6 mm ( $t_2$ ) such that  $0 \text{ mm} \leq t_1 \leq 0.2 \text{ mm}$  and  $t_2 > t_1$  are satisfied (see Kaiho paragraph [0005] and Table 1). Kaiho also teaches that the HD-DVD has a numerical aperture of 0.85 ( $NA_1$ ) while the DVD has a numerical aperture of 0.60 ( $NA_2$ ) thus satisfying a relationship  $NA_2 < NA_1$  (see Table 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kaiho with the teachings of Ohtaki. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to increase the large quantity of the storing data (Kaiho paragraph [0005]).

**Claim 63** as drawn to an optical pickup apparatus corresponding to the objective lens claimed in claim 59. Therefore optical pickup apparatus claim 63 corresponds to

objective lens claim 59, and is rejected for the same reasons of obviousness as used above.

***Allowable Subject Matter***

5. Claims 1-20, 22-47, 49-58, 60-62, 64, and 65 are allowed for the reasons indicated in the previous office action.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

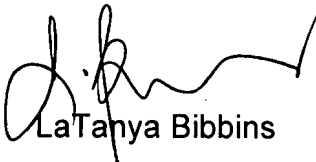
Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-

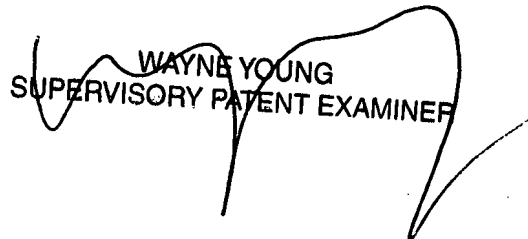
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1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
LaTanya Bibbins

  
WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER